

## CLAIMS

1. A porous aluminum fluoride on which  $SbCl_xF_{5-x}$  (wherein x represents a numeral of 0 to 5) is supported.
2. A process for producing the porous aluminum fluoride according to claim 1, which comprises supporting  $SbCl_yF_{5-y}$  (wherein y represents a numeral of 0 to 5) on a porous aluminum fluoride and treating it with hydrogen fluoride.
3. A fluorination catalyst comprising the porous aluminum fluoride according to claim 1.
4. A fluorinating agent comprising the porous aluminum fluoride according to claim 1.
5. A dehalogenating agent comprising the porous aluminum fluoride according to claim 1.
6. A process for producing a fluoro compound represented by the formula (2):  $R^1R^2R^3CF$  (wherein  $R^1$ ,  $R^2$  and  $R^3$  each represents hydrogen, a halogen, an alkyl group which may be substituted with a halogen or an ether group, or an alkoxy group; or  $R^1$ ,  $R^2$ , and  $R^3$  may be combined with each other to form a ring), which comprises reacting a compound represented by the formula (1):  $R^1R^2R^3CX$  (wherein  $R^1$ ,  $R^2$ , and  $R^3$  have the same meanings as described above; and X represents chlorine, bromine, or iodine) with hydrogen fluoride in the presence of the catalyst according to claim 3.

7. A process for producing a fluoro compound represented by the formula (2):  $R^1R^2R^3CF$  (wherein  $R^1$ ,  $R^2$  and  $R^3$  have the same meanings as described above), which comprises reacting a compound represented by the formula (1):  $R^1R^2R^3CX$  (wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $X$  have the same meanings as described above) with the fluorinating agent according to claim 4.

8. A process for producing an ester represented by the formula (4):  $R^1CH_2O(CO)R^2$  (wherein  $R^1$  represents hydrogen or an alkyl group which may be substituted with a halogen; and  $R^2$  represents hydrogen or an alkyl group which may be substituted with a halogen), which comprises reacting an ether compound represented by the formula (3):  $R^1CH_2OCXYR^2$  (wherein  $R^1$  and  $R^2$  have the same meanings as described above;  $X$  represents fluorine or chlorine; and  $Y$  represents fluorine or chlorine) with the dehalogenating agent according to claim 5.